

Remarks

This is an RCE. All prior claims are cancelled to present a uniform set of claims. Claims 33 - 48 are pending. Favorable consideration is respectfully requested.

The prior claims had been rejected under 35 U.S.C. § 112. In view of the filing of new claims 33 - 48, these rejections are believed to be overcome.

The subject invention is directed to improving resistance of mineral construction products to biocidal attack. Attack by yeasts, fungi, mildew, etc., has been a problem with such products, especially where interior or exterior walls are exposed to damp conditions. Such conditions frequently employ a redispersible polymer powder as an additive, sometimes to increase flexibility or adhesion, or to render the cured composition less subject to absorption of moisture. In cement-free compositions (compositions devoid of mineral binders such as white cement, plaster, lime, water, glass, etc.) the redispersible polymer powder is also the binder for the mineral component.

In the past, antimicrobials ("biocides") have been added to the curable mineral product formulation at the job site. However, relatively large amounts of biocides must be added, and even then, resistance to microbial attack is at best marginal.

In U.S. Published Application No. 2003/0018121 A1, cited in the present application on page 2, lines 16 and 17, biocides are first complexed with cyclodextrins ("CD") to form a biocidal/cyclodextrin complex. The CD complex is then added during mixing of the other ingredients (cement, water redispersible polymer powder, water, etc.). As a result, a very slight increase in soiling resistance is obtained. Noteworthy are Example 6 and Comparative Example C8, which employ the same biocide, as a CD complex in Example 6 and uncomplexed in Comparative Example C8. The active biocide was present in the same amount in each composition. The soiling resistance index improved only from 84 in the comparative example to 86 in the inventive example.

None of the cited references teach or suggest that the biocide be incorporated into the redispersible polymer powder itself. Instead, the references teach addition of the biocide separately, either uncomplexed, or as a CD complex, when the mortar, adhesive, stucco, render, etc., is being prepared. Applicants have surprisingly and unexpectedly discovered that if the biocide is previously incorporated in solid form into the redispersible polymer powder to form a biocide-containing redispersible polymer powder composition, the effect of the biocide is far greater than when it is added separately. In the preferred process, as illustrated in Examples 1 and 2, the biocide is spray dried together with the aqueous polymer dispersion used to form the redispersible polymer powder, to form a biocide-containing redispersible polymer powder composition.

The surprising and unexpected results obtained are illustrated by the Examples and Comparative Examples. In the subject invention Examples, the biocide-containing redispersible polymer powder compositions were added to a curable mineral building product which was subsequently cured, at biocide concentrations of 22.5 ppm and 10.5 ppm, and compared to an otherwise similar composition where the biocide is added as in the prior art, i.e. to the mineral product mix. The results are astoundingly different. Both inventive compositions showed no microbial growth even after 12 months, while a product containing no biocide exhibited a large amount of growth under the same conditions. In Comparative Example 4, where the biocide is added to the mix rather than being incorporated into the redispersible polymer powder composition, despite having 10 times the amount of biocide of Example 1 and 20 times the amount of Example 2, neither of which showed any microbial growth, the directly added biocide of Comparative Example 4 showed growth before nine months. Note, again, that this composition contained 10 to 20 times the amount of biocide as compared to the inventive compositions, yet was incapable of adequate protection.

These examples make clear that the use of a redispersible polymer powder composition containing biocide produces completely different results than when the biocide is separately added. Thus, the mineral product compositions are clearly not the same. If they were the same, the same result would have been obtained.

Certain of the dependent claims recite the preferred method of adding the biocide to the redispersible polymer powder during spray drying of the latter. None of the references teach or suggest doing so. Certain of the claims further recite that the biocide "consist of" certain listed biocides. "Consists of" eliminates the possibility of use of such biocides in complexes.


However, most importantly, none of the references, particularly *Weitzel* 2003/0018121, teach or suggest incorporating the biocide into a redispersible polymer powder composition, *i.e.* a dry composition (powder). The inventive use of this composition produces clearly surprising and unexpected results. The claims are neither anticipated nor rendered obvious by *Weitzel*.

The plethora of double patenting rejections is noted.. These are traversed, first, because *Weitzel* is neither an anticipating nor obvious-defeating reference, and the other patents listed are merely patents to redispersible polymer powder compositions which make no mention of biocides. The purpose of a double patenting rejection is to prevent an obvious extension of a "patent monopoly." However, one can practice each one of the listed patents without conflict with the present application, so long as any biocide used is incorporated in the manner employed by the prior art.

Applicants submit that the claims are now in condition for Allowance, and respectfully request a Notice to that effect. If the Examiner believes that further discussion will advance the prosecution of the Application, the Examiner is highly encouraged to telephone Applicants' attorney at the number given below.

Respectfully submitted,

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